

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A method of following the course of a flight plan of a cooperative aircraft [(1)] provided with a flight management computer [(FMS 30)] linked by a data transmission link [(53, 61)] to a control authority comprising the steps of: [(2)], the flight plan being known to the control authority [(2)] and consisting including of a chaining of waypoints $\{WP_i, WP_{i+1}\}$ associated with local flight constraints defining a trajectory skeleton $[(LT_{FP})]$ to be followed and a travel schedule to be complied with,

the control authority [(2)] employing the flight plan to estimate the instantaneous position of the aircraft [(1)],

the flight management computer [(FMS 30)] constructing, on the basis of the trajectory skeleton $[(LT_{FP})]$ and of the travel schedule that are specified in the flight plan, an effective trajectory $[(LT_{FMS})]$ with softened lateral and vertical transitions, dimensioned so as to take account of the maneuvering capabilities of the aircraft [(2)] and of a comfort instruction, and tagged by means of pseudo-waypoints $[(PWP_{i,j})]$ associated with local flight constraints, the position of a pseudo-waypoint $[(PWP_{i,j})]$ marking the start of a transition and the associated local flight constraints defining the properties of the transition, said method being characterized in that the flight management computer [(FMS 30)] of the aircraft [(2)] calculates the locations of the projections $[(SPWP_{i,j})]$ of the pseudo-waypoints $[(PWP_{i,j})]$ onto the trajectory skeleton $[(LT_{FP})]$ specified in the flight plan and communicates them via the data transmission link [(53, 61)] to the control authority [(2)] which uses them to improve its estimate of the instantaneous position of the aircraft [(2)].

2. (currently amended): The method as claimed in claim 1, characterized in that wherein the flight management computer [(FMS 30)] of the aircraft [(2)] projects the pseudo-waypoints $[(PWP_{i,j})]$ onto the trajectory skeleton $[(LT_{FP})]$ of the flight plan while conserving distances, the distance to a waypoint $[(WP_i)]$ of the projection $[(SPWP_{i,j})]$ of a pseudo-

waypoint $[(PWP_{i,j})]$ being equal to that separating the projected pseudo-waypoint $[(PWP_{i,j})]$ from the point $[(SWP_i)]$ of the effective trajectory $[(LT_{FMS})]$ of the aircraft $[(2)]$ which is closest to the waypoint $[(WP_i)]$ considered.

3. (currently amended): The method as claimed in claim 2, ~~characterized in that wherein~~ the flight management computer $[(FMS\ 30)]$ of the aircraft $[(2)]$ projects the pseudo-waypoints $[(PWP_{i,j})]$ onto the trajectory skeleton $[(LT_{FP})]$ of the flight plan while conserving distances measured as a length unit, the distance to a waypoint $[(WP_i)]$ of the projection $[(SPWP_{i,j})]$ of a pseudo-waypoint $[(PWP_{i,j})]$ being equal to that separating the projected pseudo-waypoint $[(PWP_{i,j})]$ from the point $[(SWP_i)]$ of the effective trajectory $[(LT_{FMS})]$ of the aircraft $[(2)]$ which is closest to the waypoint $[(WP_i)]$ considered.

4. (currently amended): The method as claimed in claim 2, ~~characterized in that wherein~~ the flight management computer $[(FMS\ 30)]$ of the aircraft $[(2)]$ projects the pseudo-waypoints $[(PWP_{i,j})]$ onto the trajectory skeleton $[(LT_{FP})]$ of the flight plan while preserving equivalent, the distances measured as travel time, the travel time from a waypoint $[(WP_i)]$ to the projection $[(SPWP_{i,j})]$ of a pseudo-waypoint $[(PWP_{i,j})]$ being taken equal to the travel time from the projected pseudo-waypoint $[(PWP_{i,j})]$, to the point $[(SWP_i)]$ of the effective trajectory $[(LT_{FMS})]$ of the aircraft $[(2)]$ which is closest to the waypoint $[(WP_i)]$ considered.

5. (currently amended): The method as claimed in claim 1, ~~characterized in that wherein~~ the flight management computer $[(FMS\ 30)]$ of the aircraft $[(2)]$ communicates to the control authority $[(1)]$, with the locations of the projections $[(SPWP_{i,j})]$ of the pseudo-waypoints $[(PWP_{i,j})]$ onto the trajectory skeleton $[(LT_{FP})]$ specified in the flight plan, indications on the nature and the magnitude of the changes of local flight instruction that are associated with the projected pseudo-waypoints $[(PWP_{i,j})]$.